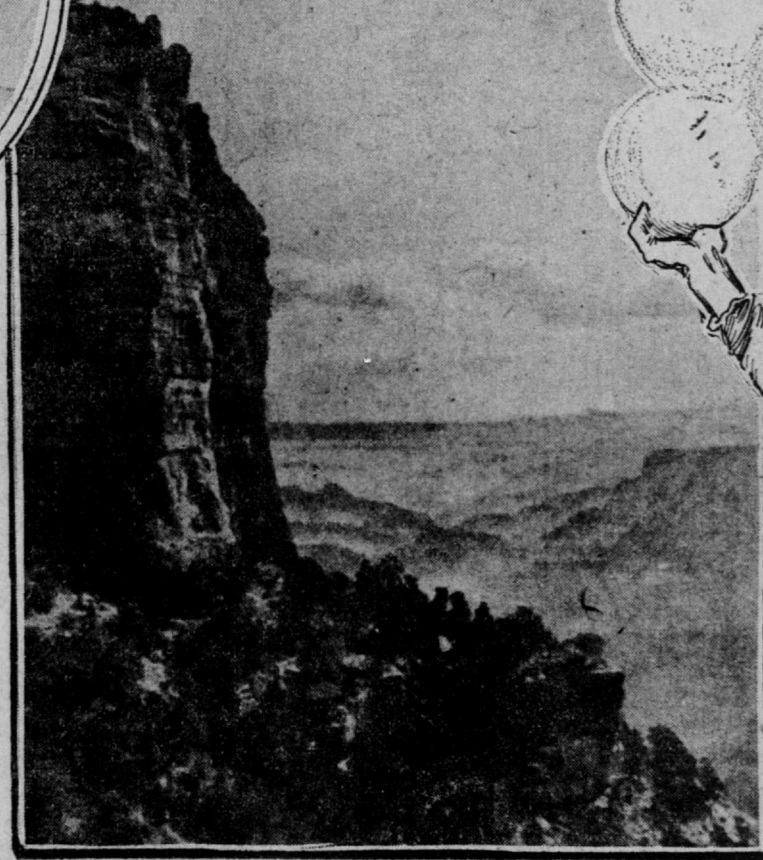


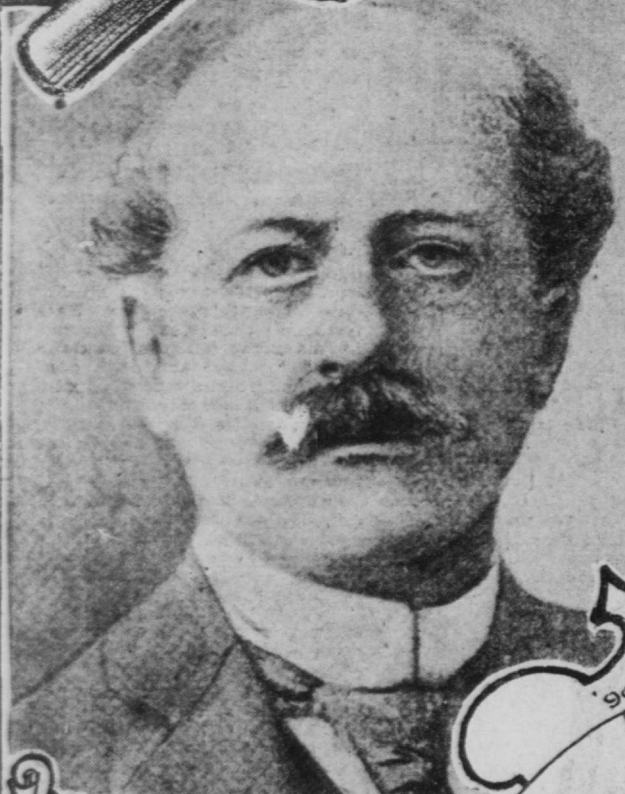
THE MYSTERY OF The Great Red Star

WHAT WILL THE PRESENT
CLOSE APPROACH TELL
US OF THE LIFE SECRETS
OF OUR NEAREST NEIGHBOR
MARS?

MAP OF MARS IN 1905
BY
PROF. LOWELL.



GRAND CANYON OF THE COLORADO, WHICH MUST
LOOK TO THE MARTIANS LIKE ONE OF THEIR OWN
GREAT CANALS.



PROF. PERCIVAL LOWELL.

By Carl Von Mosen

FEW are the people, all over the civilized world today—and especially here in the clearer, dryer air of the west—whose eyes do not turn every evening as dusk falls into dark, to the east (slightly south-east, to be accurate) to watch for that "great red star," as they used to call it, shining from its dark blue field with the splendor of Jupiter, but more portentous in appearance because of the lurid red-orange of its color. In ancient times this approach of Mars—for it is Mars that is now rising redly in the east just after sunset—was actually looked upon as the herald of blood and disaster, and ugly happenings that followed on its red track were considered the concrete result of its splendid brief reign in the eastern sky.

Nowadays—especially in this summer of 1907—the appearance of the great red star kindles as much interest as it did fear in those old days. For Mars, our nearest neighbor in the solar system, has grown to be the planet of mystery. There is not an astronomer in the world whose telescope, at this nearest approach since 1892, is not pointed to the east in the hope of wrestling new secrets concerning that mysterious life that the world now agrees exists on the red planet.

"Nearest" in Mid-August

The reason that these near approaches to Mars occur only at long and irregular intervals is simple, though we were years in finding it out. The orbit of Mars is much larger than the orbit of our earth. Therefore, when Mars is nearest the sun, the earth is nearly at its greatest distance, which brings the two orbits closer together at that point than at any other. The accompanying diagram illustrates this. The orbit of the earth is much smaller than Mars and it also travels faster, overtaking Mars in a little over two years and bringing the two comparatively near. There has not been a really satisfactory opposition, as astronomers call this approach, for 13 years.

Therefore, all over the country those

who are interested in the marvelous romance of the heavens are watching and wondering. The approach is nearest, the seeing best, about the middle of August. Mars at present is only 28,000,000 miles away. This "only" may seem laughable unless we contrast it with the fact that generally the red star is something like 244,000,000 miles away and has to be hunted with a telescope.

What we at present know about the red planet seems trivial and doubtful to the unthinking outsider; to men like Schiaparelli and Lowell, who have practically discovered this new world in the last 30 years, it is one of the marvels of astronomy, to the layman as well as the scientist, a marvel that carries with it a kindling touch because of the fact that Mars concerns new life and undoubtedly highly evolved life, as we must believe from the facts and photographs that these two great astronomer-adventurers have in the last few years been able to place before us.

The layman looking at that gorgeous planet for the first time through a telescope cannot help a slight feeling of disappointment. It was at least the case with me. I had for years been reading of Lowell's researches, for years been watching his maps, showing the Martian "canals" or channels, that wonderful geometric

network of waterways and cases that covers the face of the planet.

I looked through the glass and saw a great blinding, shining disk, more blank of face than the moon. It was as if one looked down on a bowl filled with molten brass. It was shaded more deeply reddish in places; but not a line, not a spot, did I see. I realized with a dreadful certainty that Mars was indeed 28,000,000 miles away and Jules Verne quite as interesting a theorizer as the next man.

But when I remembered in detail the work of Lowell I felt again that science is indeed greater than romance. Lowell is now near 50 years old, and as eager today in the unraveling of this scientific fairy tale as he was as a boy of 16, when from the top of his house in Boston through an excuse for a telescope the great red star first "swam into his ken." I realized what all of us who intend to study Mars must realize—that to accustom one's eyes to a telescope takes time. One man told me it was two months before he was able to see a line on Mars.

It depends a good deal on individual eyesight.

So we must first be willing to take for granted what the great astronomers who have devoted their lives to the red star have to tell us. Percival Lowell is the man who has done most. Because of the unsatisfactory seeing in the moist atmosphere of the east Lowell with enthusiastic impetuosity, 13 years ago, came west, seeking a dryer air, and devoted his whole fortune to the building of Lowell observatory in northern Arizona, 7,000 feet above the sea, with Arecibo and Lick one of the three best located observatories in the world.

What, then, do we at present know about Mars?

Have Days Like Ours

The planet is considerably smaller than the earth, having a diameter of but 4,400 miles; but it rotates on its axis in the same time; therefore the Martian day is about the length of our day, while its seasons and years are twice as long. The gravitation of this smaller body is about two-fifths of what it is on earth. Jules Verne in one of his romances ("Hector Servadac") deducing the fact that an earth man on Mars would weigh a great deal less—a 150 pound man weighing 53 pounds or so on Mars—amusingly uses this fact. He represents his earth born hero projected upon the red star and covering the country in great kangaroo leaps, jumping miles, with the sensations of a flying fish, because of his suddenly lessened weight.

But, putting romancing aside, the remarkable thing about Mars lies in the fact that like the earth there is on this smaller, older neighbor atmosphere, water, vegetation, animal life. The eye once accustomed to the telescope readily detects the bright white caps at the poles, which astronomers admit must be snow and ice.

Water is very scarce on Mars. If there are any oceans they are very shallow and exist only temporarily during the rainy season. It is this very fact that has accounted for the canals, the dense network of geometrically straight lines, with distinct spots or oases at their intersections, lines and spots both bluish green in color that astronomers have long seen and lately been able to photograph. These lines begin to appear with the yearly melting of the snow caps at the poles and journey down with the summer to the equator, soon covering the globe with a

myriad systematic interlacing of "canals." There is no doubt in the minds of astronomers today that this is a system to distribute water over a parched globe, the last stand made by a highly evolved life for existence. It is an irrigation system on such a stupendous scale that it makes all our achievements in reclamation seem trivial. Save for these bluish lines and

allow them to survive. Their tremendous feat implies," he says, "a unity of interest. We deduce that they are a nonbellicose people. War is something they have long since outgrown. International strife is after all something a people must outgrow, a survival of savage times." The Martians, it goes without saying, when we think of their system, have reached this point:

When the war drum throbbed no longer and the battle flag is furled, in the parliament of man, the federation of the world.

But Lowell takes another step. Not only does he realize that the Martians must be an older and therefore more highly intelligent race, having long passed the stage we are going through, a great world of beings who have colonized to the last available inch their whole barren globe, but he even has a word to say on the possible type of being a planet constituted like Mars might evolve.

On Mars the summer follows close upon the winter, the one excessively cold—at least absolute or 273 centigrade—and the summers torridly hot, the seasons also lasting twice the time they do on our earth.

Lowell takes as an example San Francisco peak in Arizona, a mountain rising 12,561 feet from a torrid belt to a boreal region of elongated winters of piercing cold. Lowell contends that, as illustrated by life on this frozen peak,

cerning our hibernating neighbors of the great red planet.

But theories such as Du Maurier's, with their psychic interest, are at present more popular. We know the beings there must be highly evolved. According to some thinkers, at a certain point in the evolution of man he becomes a mentality without body, capable of projecting itself at will to a given point. Du Maurier in "The Martian" used this idea in making his Martian, or Martianess, project herself from Mars and dominate an earth body. There is certainly a wide field for fiction pure and simple offered by the red planet.

But to return to earth and the scientific. It is not too wild a flight to predict that we undoubtedly will eventually communicate with Mars, not by the sending of thought waves, as in so much of the fiction, but by the actual projection of messages through the ether that separates us from Mars. If a human mind could conceive the wireless this idea is not so farfetched as it at first seems. It may be that at this very moment our nearest neighbors are busy with experiments that will obviate the loss of messages through the alien moisture of the ether; and it is probable that we earthborn or the Martians are eventually to solve the problem.

A few years ago, as most "constant readers" of the newspapers will remember, there was a tremendous Mars excitement, arising from the very fact that it was thought our neighbor was trying to signal to us; there was an incredibly bright spot moving along the surface of the planet. Then Professor Lowell declared that this spot was a great flying cloud (clouds are

junction, spots the surface of Mars is reddish in color, the color the spots of desert on our younger globe take on from a great distance. There is now small doubt that the blue hands and oases are vegetation springing anew with the spring and the descent of the water from the poles by the—to us—invisible waterways.

These waterways were for years looked upon as cracks and fissures, natural formations. But it is generally conceded now that they must be artificial; they are absolutely straight; they are of uniform, individual size; they invariably connect with the oases by the quickest and least wasteful paths; they cover the surface of the globe in a close systematic net; and, finally, water could not but by artificial means flow direct to the equator, especially since Mars is a planet of levels, with no mountain ranges.

World System of Canals

It may be seen at once that to girdle the world with a system so elaborate and tremendous implies a wonderful geometric intelligence to say nothing of engineering skill. The shortest of the "canals" would reach from San Francisco to Boston. And they cover 282,000,000 square miles! Therefore to deny that there is intelligence on the great red star has come to be looked upon as old fashioned. No one denies that there is atmosphere. And since there is vegetation there is undoubtedly animal life, and very highly evolved animal life.

It is at this point that astronomers hesitate to tell us what they think. They will not theorize. We must from this point make our own excursions into the unknown concerning Mars. Professor Lowell is the only astronomer who has slightly overstepped the scientific mark. Lowell besides being a scientist is also a man of eager and enkindling imagination. Many readers recall his work in another field, "Chosen, the Land of the Morning Calm," and "Occult Japan," colorful literary successes; and can hardly think of this Lowell as the astronomer until they read his "Solar System" and two volumes on Mars. I doubt whether any one who has once read it is ever able to forget that tremendous final picture of the dead worlds that closes the "Solar System." It makes one forget the past pages of mathematics, and is revealing as to the imaginative plus the scientific character of the man. Here, then, is a man who is not afraid to theorize. Lowell in his latest—just published—book, "Mars and Its Canals," dwells on the marvel of engineering skill that the planet presents; dwells on the fact that Mars is an aging world where conditions of life have grown dim. "Mentality must characterize more and more these beings in order to

life depends solely on a sufficiency of heat during the breeding season. If the heat is enough for the animal or plant to propagate its kind it can hold its footing the rest of the year. Animal life on this peak hibernates through the winter season. For months nature suspends the functions of animals. Then at the first warmth they resurrect into life and activity. Why, asks Professor Lowell, may not this be the case on the red planet—the gradual evolution of a hibernating race?

Why? This latest theory has given a jolt not only to scientists but to laymen. It is a perfectly plausible theory. But somehow the picture of Teddy bears hibernating through tree trunks and snoozing until the rivers are unlocked is the first picture that comes to one's mind. We cannot help wondering to what leap Lowell's brilliant and acute mind will next be impelled.

Fertile Field for Fiction

Ever since the idea of Mars as a world of intelligent beings has held men's minds the fiction monger has been busy with the theme. Jules Verne was one of the pioneers with his colossal fiasco concerning "Hector Servadac." Verne, with his unusually keen faculty for dressing up scientific data in a fantastic dress, has been followed lately by H. G. Wells. Wells' novels have such a scientific solidarity about them that, unlike Verne's, scientists "cry for them." Wells has an amazing gift for prediction that makes such tales as "The War of the Worlds" and "Trail of the Comet" unusually interesting. Wells has left Mars comparatively untouched, but since Lowell's latest theory we can imagine him following it up by some shrewd and entertaining surmises con-

extremely rare in the Martian atmosphere) lit by the rays of the sun. And so the earth was again cheated of its expected sensation.

One of the first questions that I hope will be asked of our flaming neighbor is: "Are your skies red or green or yellow?" This color of the sky is a prominent variant in all Martian fiction.

There is scarcely an astronomical discovery that has roused more animosity and narrow mindedness than the proposition that Mars has produced intelligent life. So both have been to believe that we are not alone in the solar system that one is reminded of the mediaeval legend: A young Jesuit astronomer came to his superior with the discovery that there were spots on the sun. The father said: "Tranquillize yourself, my son. (It was probably an excitable and imaginative discoverer of the Lowell temper.) What you irreligiously take for spots on the sun are the defects of your own eyes or your glasses." And the young monk acquiesced.

But Lowell and Schiaparelli have never acquiesced to the taunts of continental astronomers (on the continent the seeing is so bad that the canals are barely visible), and in this approach of 1907 there is not an astronomical journal in the country that is not eagerly awaiting Lowell's latest bombshell. With an enthusiast of this temper in the field it will not be surprising if this generation is electrified by the concrete intelligence that the mystery is solved, that our old world neighbors of the great red star have actually sent us a message, an unreadable message! The final step will be long distance lessons in the language of the great red planet!